

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant(s) : Würtz et al.  
Serial No. : 09/841,820  
For : LIQUID FORMULATIONS  
Filed : 25 April 2001  
Examiner : Alton Pryor  
Art Unit : 1616

745 Fifth Avenue  
New York, NY 10151

**REINSTITUTED APPEAL BRIEF UNDER 37 C.F.R. §41.37  
WITH REQUEST FOR EXTENSION OF TIME**

**Mail Stop Appeal Brief – Patent**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is filed in response to the Final Rejection of claims 15-18, 20-25 and 30-32 in the Office Action dated 11 September 2006.

The requisite fee of \$500.00 as set forth in 37 C.F.R. §41.20(b)(2) for this Brief has already been paid electronically for the Appeal Brief filed on 9 January 2006. The Commissioner is authorized to charge any deficiency or credit any overpayment associated with this appeal to Deposit Account No. 50-0320.

**PETITION FOR EXTENSION OF TIME**

Pursuant to the provisions of 37 C.F.R. §1.136(a)(1), applicants hereby petition for an extension of time of three months in responding to the Office Action of 11 September 2006. Granting of Applicants' request would serve to extend Applicants' due date from 11 December 2006 to 12 March 2007 (11 March is a Sunday).

The amount of **\$1020** to satisfy the fee for a three (3) month extension of time will be paid electronically. The Commissioner is hereby authorized to charge any additional fee which may be required, or credit any overpayment to Account No. 50-0320.

**(1) Real Party in Interest**

The real party in interest of record in this appeal is the assignee, Aventis CropScience AG (see Notice of Recordation of Assignment – Reel/Frame: 012076/0595). The appellants note that the interest in this application has since transferred to Bayer CropsScience AG and is the actually the real party in interest; a recordation of assignment will be filed to make this transfer of record.

**(2) Related Appeals and Interferences**

Appellants are not aware of any related appeals or interferences which directly affect or are directly affected or have bearing in the Board's decision in the pending appeal.

**(3) Status of Claims**

Claims 1-14, 19, 26 and 27 have been cancelled. Claims 15-18, 20-25 and 28-32 are pending in this application and stand rejected under 35 U.S.C. §103(a). The rejections of claims 15-18, 20-25, 28 and 30-32 are the subject of this Appeal Brief. Claim 29 was indicated to be allowable if rewritten in independent form.

Given the lengthy prosecution history of this application, the appellants provide the following summary of the prosecution of this application which includes four non-final rejections and a restriction requirement which was later rescinded:

<b>Date</b>	<b>Action</b>
	<b>Claims pending</b>
	<b>References used in rejections</b>
25 April 2001	Filing date of application
20 February 2002	<b>First office action on the merits</b> claims 1-13 rejected Kasai (JP 04066509)
19 July 2002	Response to office action claims 14-28 now pending
10 October 2002	<b>Restriction requirement</b>
10 February 2003	Response to restriction requirement claims 14-29 now pending
5 May 2003	<b>Non-final office action (restriction withdrawn)</b> claims 14,15 and 18-28 rejected; claims 16,17 and 29 allowable if rewritten in

	independent form Antipanova et al. (SU 126996)
23 July 2003	Response to office action claims 15-18, 20-25 and 28-32 now pending
4 November 2003	<b>Non-final office action</b> claims 15,17,18,20-25,28 and 30-32 rejected; no rejections for claims 16 and 29 Hirokawa et al. (JP 200344604)
23 February 2004	Reponse to office action claims 15-18,20-25 and 28-32 still pending
<b>25 April 2004</b>	3-year anniversary date of filing
17 June 2004	<b>Non-final office action</b> claims 15-18,20-25 and 28-32 rejected Nishi et al. (JP 11215004); Yasui et al. (JP 10330202); Kadowaki (JP 10182302); Hasegawa (JP 10182302).
17 December 2004	Reponse to office action claims 15-18,20-25 and 28-32 still pending
7 April 2005	<b>Final rejection</b> claims 15-18,20-25 and 28-32 rejected (same as 17 June 2004)
9 January 2006	Appeal Brief filed
5 May 2006	Appeal Brief filed (response to notice of non-compliance)
11 December 2006	<b>Non-final office action</b> claims 15-18,20-25 and 28-32 rejected Pappas-Fader et al. (US 5736486); Yasui et al. (JP 10330202)

The applicants also note that the Non-final office action of 11 December 2007 appears to have been opened without approval from the supervisory patent examiner which is not consistent with MPEP 1207.04 - Reopening of Prosecution After Appeal<sup>1</sup>.

#### (4) Status of Amendments

An after final amendment to the claims was filed on 7 July 2005 and was indicated as being entered for the purposes of appeal by the Examiner in his Advisory Action of 29 September 2005. No further amendments have been made.

#### (5) Summary of Claimed Subject Matter

As required by 37 C.F.R. §41.37(c)(1)(v), the appellants provide below a concise explanation of each of the independent claims involved in the appeal and identify the support in the specification for each of the independent claims under appeal and dependent claims which are argued for separately.

The only independent claim under appeal is claim 30 which is directed to:

<sup>1</sup> "The examiner may, *with approval from the supervisory patent examiner*, reopen prosecution to enter a new ground of rejection after appellant's brief or reply brief has been filed." (emphasis added)

A liquid formulation which comprises

a) one or more compounds selected from the group consisting of

- sulfusuccinate of the formula (I)



in which

$R^1, R^2$  independently of one another are identical or different and are H, substituted or unsubstituted  $C_1$ - $C_{30}$ -hydrocarbon radicals or (poly)alkylene oxide adducts,

$R^3$  is a cation and

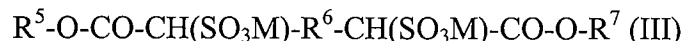
$X, Y$  independently of one another are identical or different and are O or  $NR^4$ , where

$R^4$  is H, a substituted or unsubstituted  $C_1$ - $C_{30}$ -hydrocarbon radical, dicarboxyethyl or a (poly)alkylene oxide adduct;

- gemini surfactants of the formula (II)



- gemini surfactants of the formula (III)



in which

$R^5, R^7$  independently of one another are identical or different and are branched or straight-chain saturated or unsaturated hydrocarbon radicals having 1 to 30 carbon atoms,

$R^6$  is a spacer of a straight-chain or branched chain having 2 to 100 carbon atoms which contains 0 to 20 oxygen atoms, 0 to 4 sulfur atoms and/or 0 to 3 phosphorus atoms and which has 0 to 20 functional side groups and which contains 0 to 100 alkoxy groups,

$A, B$  independently of one another are identical or different and are polyalkylene oxide radicals having a terminal OH,  $C_1$ - $C_{20}$ -alkyl, carboxyethyl, carboxymethyl, sulfonic acid, sulfuric acid, phosphoric acid or betaine grouping, and

$M$  is a cation; and

- b) one or more active compounds from the group of ALS inhibitors in dissolved form.

Support for this claim can be found throughout the specification, e.g., on page 3, lines 4-12 and lines 15-17, page 6, line 9 - page 7, line 27 and original claims 1-5.

**(6) Grounds of Rejection to Be Reviewed on Appeal**

There is only one rejection to be reviewed on appeal, but for the purpose of appeal the appellants the following issues separately:

Whether claims 16-18, 21, 23, 25, 28 and 30-32 were properly rejected as being obvious under 35 U.S.C. §103(a) by Pappas-Fader et al. (U.S. Patent 5,736,486 - "Pappas-Fader") in view of Yasui et al. (JP 10330202 - "Yasui"); and

Whether claims 15, 20, 22 and 24 were properly rejected as being obvious under 35 U.S.C. §103(a) by Pappas-Fader et al. (U.S. Patent 5,736,486 - "Pappas-Fader") in view of Yasui et al. (JP 10330202 - "Yasui").

**(7) Argument**

**A. Pappas-Fader and Yasui does not render claims 16-18, 21, 23, 25, 28 and 30-32 obvious**

**1. Pappas-Fader and Yasui do not teach or suggest all of the claim limitations of claims 16-18, 21, 23, 25, 28 and 30-32**

*Standard of Review*

MPEP 2143.03 states in part that "To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art." *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)". However, the combination of Pappas-Fader in view of Yasui does not teach or suggest all claim limitations.

For simplicity's sake, the appellants' claimed invention require: (1) a liquid formulation; (2) one or more compounds selected from the group consisting of a sulfosuccinate of the formula (I)..., gemini surfactants of formula (II); and gemini surfactants of formula (III); and (3) an ALS inhibitor in dissolved form. The Examiner appears to believe that the ALS inhibitor of Pappas-Fader is dissolved. *This is incorrect.* The ALS compound has not dissolved and no evidence has been provided to show this is an inherent property of Pappas-Fader or Yasui.

*No evidence that Pappas-Fader or Yasui teaches that the ALS component is dissolved*

The Examiner is arguing that the ALS is inherently dissolved in the referenced formulations. However, MPEP 2112, sec. IV (Requirements of Rejection Based on Inherency; Burden of Proof) states in part that “The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).....To establish inherency, the ***extrinsic evidence*** ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. ***Inherency, however, may not be established by probabilities or possibilities.*** The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)(citations omitted)" - (emphasis added).

Moreover, this assertion of inherency is based on an incorrect interpretation of the term “solution”. On page 3, lines 1-2 of the 11 September 2006 Office Action, the Examiner stated that “...the ALS inhibitor(s) would inherently be dissolved since solution means ingredients therein are totally miscible.” *This is also incorrect.* A dictionary definition of ---solution--- is that it is “a single, homogeneous liquid, solid, or gas phase that is a mixture in which the components (liquid, gas, solid, ***or combinations thereof***) are uniformly distributed throughout the mixture.” (from *The McGraw-Hill Dictionary of Chemical Terms*, pg. 400 (1984)).

As such there is no reason to presuppose that the ALS inhibitor would be dissolved in the compositions of Pappas-Fader and there was no other evidence has been presented which supports the Examiner’s claim of inherency.

Yasui does not remedy any deficiencies with the Pappas-Fader reference as it is directed to an aqueous ***suspension*** (a mixture of fine non-settling particles of any ***solid*** within any liquid) wherein the solid material is the ***water-insoluble*** herbicide and therefore does not teach the herbicide compound in dissolved form. The appellants’ arguments with respect to inherency for Pappas-Fader also apply here.

**2. Appellants provided evidence of secondary considerations which tend toward non-obviousness of their claimed invention**

MPEP 2141 states that “Office policy is to follow *Graham v. John Deere Co.* in the consideration and determination of obviousness under 35 U.S.C 103...the four factual inquiries enunciated therein as background for determining obviousness are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the art; and
- (D) Evaluating evidence of secondary considerations.”

In the present application, the appellants have provided evidence of secondary considerations within the specification. It is believed that this evidence provided the basis for the allowability of claim 29 (iodosulfuron).

As noted in MPEP 716.02, section I states “[t]he nonobviousness of a broader claimed range can be supported by evidence based on unexpected results from testing a narrower range if one of ordinary skill in the art would be able to determine a trend in the exemplified data which would allow the artisan to reasonably extend the probative value thereof. *In re Kollman*, 595 F.2d 48, 201 USPQ 193 (CCPA 1979).”

The table on page 38 not only showed evidence of unexpected stability for iodosulfuron, but also stability for foramsulfuron, mesosulfuron and combinations of iodosulfuron with fenoxaprop-ethyl and mefenpyr-ethyl. However, no evidence was presented in the final rejection which would contradict that a trend in the exemplified data would be supportive of a broader claim directed toward ALS inhibitors.

**B. Pappas-Fader and Yasui does not render claims 15, 20, 22 and 24 obvious**

**1. Pappas-Fader and Yasui do not teach or suggest all of the claim limitations of claims 15, 20, 22 and 24 obvious**

The arguments presented above with regard to claims 16-18, 21, 23, 25, 28 and 30-32 also apply to the rejection of claims 15, 20, 22 and 24.

**2. Appellants provided evidence of secondary considerations which tend toward non-obviousness of their claimed invention**

The arguments presented above with regard to claims 16-18, 21, 23, 25, 28 and 30-32 also apply to the rejection of claims 15, 20, 22 and 24.

**3. Claims 15, 20, 22 and 24 are directed toward sulfonylureas as ALS inhibitors**

The unexpected results with regard to the improvement of stability of an ALS inhibitor is even more surprising when taken in the context of sulfonylureas which are known in the art to be chemically unstable in solution. Claim 29 uses an iodosulfuron as the ALS inhibitor (a sulfonylurea) and evidence was also presented for foramsulfuron and mesosulfuron (also sulfonylureas) which showed unexpected stability of these sulfonylureas (see Table on page 38 in the specification, Examples I and II).

There is no reason or evidence presented in the rejection which establishes obviousness for sulfonylureas as a class of ALS inhibitors and as such at a minimum, these claims should also be allowed.

**Conclusion**

For the reasons given above, the appellants respectfully submit that the Examiner's rejection of claims 15-18, 20-25, 28 and 30-32 should be reversed by this Honorable Board, and prompt issuance of a Notice of Allowance is earnestly solicited.

Respectfully submitted,

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**(8) Claims Appendix**

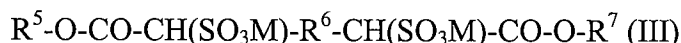
Claims 1-14 (Cancelled)

Claim 15 (Previously presented)

15. The liquid formulation as claimed in claim 30, which comprises, as component b), one or more sulfonylureas.

Claim 16 (Previously presented)

16. The liquid formulation as claimed in claim 30, which comprises, as component a), one or more compounds from the group consisting of the gemini surfactants of the formula



in which

$R^5, R^7$  independently of one another are identical or different and are branched or straight-chain saturated or unsaturated hydrocarbon radicals having 1 to 30 carbon atoms,

$R^6$  is a spacer of a straight-chain or branched chain having 2 to 100 carbon atoms which contains 0 to 20 oxygen atoms, 0 to 4 sulfur atoms and/or 0 to 3 phosphorus atoms and which has 0 to 20 functional side groups and which contains 0 to 100 alkoxy groups,

A,B independently of one another are identical or different and are polyalkylene oxide radicals having a terminal OH,  $C_1$ - $C_{20}$ -alkyl, carboxyethyl, carboxymethyl, sulfonic acid, sulfuric acid, phosphoric acid or betaine grouping, and

M is a cation.

Claim 17 (Previously presented)

17. The liquid formulation as claimed in claim 30 which comprises, as component a), one or more compounds from the group of the sulfosuccinates of the formula (I)



in which

- $R^1, R^2$  independently of one another are identical or different and are H, substituted or unsubstituted  $C_1$ - $C_{30}$ -hydrocarbon radicals or (poly)alkylene oxide adducts,  
 $R^3$  is a cation and  
 $X, Y$  independently of one another are identical or different and are O or  $NR^4$ , where  $R^4$  is H, a substituted or unsubstituted  $C_1$ - $C_{30}$ -hydrocarbon radical, dicarboxyethyl or a (poly)alkylene oxide adduct.

Claim 18 (Previously presented)

18. The liquid formulation as claimed in claim 30, comprising, as component b), one or more active compounds from the group of the ALS inhibitors in combination with one or more agrochemicals which are different from ALS inhibitors.

Claim 19 (Cancelled)

Claim 20 (Previously presented)

20. The liquid formulation as claimed in claim 31, wherein the ALS inhibitor is a sulfonylurea.

Claim 21 (Previously presented)

21. The liquid formulation as claimed in claim 30, comprising
- from 0.1 to 80% by weight of one or more compounds selected from the group consisting of gemini surfactants and sulfosuccinates
  - from 0.0001 to 50% by weight of one or more active compounds from the group of the ALS inhibitors,
  - from 0 to 60% by weight of additional surfactants and/or polymers,
  - from 0 to 90% by weight of organic solvents,
  - from 0 to 50% by weight of agrochemicals which are different from ALS inhibitors,
  - from 0 to 20% by weight of customary formulation auxiliaries and/or
  - from 0 to 50% by weight of water.

Claim 22 (Previously presented)

22. The liquid formulation as claimed in claim 21 wherein the ALS inhibitor is a sulfonylurea.

Claim 23 (Previously presented)

23. The liquid formulation as claimed in claim 30, comprising
- a) from 0 to 60% by weight of one or more compounds selected from the group consisting gemini surfactants and sulfosuccinates,
  - b) from 1 to 15% by weight of one or more active compounds from the group of the ALS inhibitors,
  - c) from 0 to 50% by weight of additional surfactants and/or polymers,
  - d) from 0 to 30% by weight of organic solvents,
  - e) from 0 to 50% by weight of agrochemicals which are different from ALS inhibitors and/or
  - f) from 0 to 10% by weight of customary formulation auxiliaries.

Claim 24 (Previously presented)

24. The liquid formulation as claimed in claim 23 wherein the ALS inhibitor is a sulfonylurea.

Claim 25 (Previously presented)

25. The liquid formulation as claimed in claim 30, the form of a solution, dispersion or an emulsion concentrate.

Claims 26 and 27 (Cancelled)

Claim 28 (Previously presented)

28. A method for controlling undesirable vegetation, which comprises applying an effective amount of a formulation as claimed in claim 30, if required, after dilution with water, to the seeds, plants, parts of plants or the area under cultivation.

Claim 29 (Previously presented)

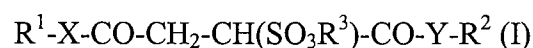
29. The liquid formulation according to claim 30, wherein the component a) is sodium di-(2-ethylhexyl)sulfosuccinate) and the ALS inhibitor is iodosulfuron-methyl or its sodium salt.

Claim 30 (Previously presented)

30. A liquid formulation which comprises

- a) one or more compounds selected from the group consisting of

- sulfosuccinate of the formula (I)



in which

$R^1, R^2$  independently of one another are identical or different and are H, substituted or unsubstituted  $C_1$ - $C_{30}$ -hydrocarbon radicals or (poly)alkylene oxide adducts,

$R^3$  is a cation and

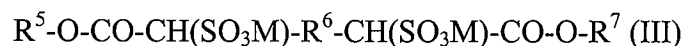
$X, Y$  independently of one another are identical or different and are O or  $NR^4$ , where

$R^4$  is H, a substituted or unsubstituted  $C_1$ - $C_{30}$ -hydrocarbon radical, dicarboxyethyl or a (poly)alkylene oxide adduct;

- gemini surfactants of the formula (II)



- gemini surfactants of the formula (III)



in which

$R^5, R^7$  independently of one another are identical or different and are branched or straight-chain saturated or unsaturated hydrocarbon radicals having 1 to 30 carbon atoms,

$R^6$  is a spacer of a straight-chain or branched chain having 2 to 100 carbon atoms which contains 0 to 20 oxygen atoms, 0 to 4 sulfur atoms and/or 0 to 3 phosphorus atoms and which has 0 to 20 functional side groups and which contains 0 to 100 alkoxy groups,

A,B independently of one another are identical or different and are polyalkylene oxide radicals having a terminal OH, C<sub>1</sub>-C<sub>20</sub>-alkyl, carboxyethyl, carboxymethyl, sulfonic acid, sulfuric acid, phosphoric acid or betaine grouping, and

M is a cation; and

- b) one or more active compounds from the group of ALS inhibitors in dissolved form.

Claim 31 (Previously presented)

31. The liquid formulation as claimed in claim 30 which further comprises one or more components selected from the group consisting of
- a) additional surfactants and/or polymers,
  - b) organic solvents,
  - c) agrochemicals which are different from ALS inhibitors,
  - d) customary formulation auxiliaries,
  - e) tank mix components, and/or
  - f) water.

Claim 32 (Previously presented)

32. The liquid formulation of claim 30 which comprises as component b) one or more sulfonamides and further comprises c) an organic solvent.

(9) **Evidence Appendix**

- (1) Copy of page 400 of *McGraw-Hill Dictionary of Chemical Terms* (definition of “solution”)

**(10) Related Proceedings Appendix**

None

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# McGraw-Hill Dictionary of **CHEMICAL TERMS**

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**Sybil P. Parker**

EDITOR IN CHIEF

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*On the cover:* Photomicrograph of potassium nitrate under high pressure, a specimen contained in a diamond-anvil high-pressure cell. (National Bureau of Standards)

**McGRAW-HILL DICTIONARY OF CHEMICAL TERMS**

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**solidus** In a constitution or equilibrium diagram, the locus of points representing the temperature below which the various compositions finish freezing on cooling, or begin to melt on heating.

**solidus curve** A curve on the phase diagram of a system with two components which represents the equilibrium between the liquid phase and the solid phase.

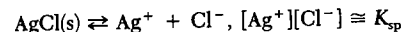
**soliquid** A system in which solid particles are dispersed in a liquid.

**solubility** The ability of a substance to form a solution with another substance.

**solubility coefficient** The volume of a gas that can be dissolved by a unit volume of solvent at a specified pressure and temperature.

**solubility curve** A graph showing the concentration of a substance in its saturated solution in a solvent as a function of temperature.

**solubility product constant** A type of simplified equilibrium constant,  $K_{sp}$ , defined for and useful for equilibria between solids and their respective ions in solution; for example, the equilibrium



where  $[\text{Ag}^+]$  and  $[\text{Cl}^-]$  are molar concentrations of silver ions and chloride ions.

**solubility test** 1. A test for the degree of solubility of asphalts and other bituminous materials in solvents, such as carbon tetrachloride, carbon disulfide, or petroleum ether. 2. Any test made to show the solubility of one material in another (such as liquid-liquid, solid-liquid, gas-liquid, or solid-solid).

**soluble** Capable of being dissolved.

**soluble barbitol** See sodium barbitol.

**soluble glass** See sodium silicate.

**soluble gluside** See sodium saccharine.

**soluble guncotton** See pyroxylin.

**soluble indigo blue** See indigo carmine.

**soluble nitrocellulose** See pyroxylin.

**soluble saccharin** See sodium saccharin.

**solute** The substance dissolved in a solvent.

**solution** A single, homogeneous liquid, solid, or gas phase that is a mixture in which the components (liquid, gas, solid, or combinations thereof) are uniformly distributed throughout the mixture.

**solution pressure** 1. A measure of the tendency of molecules or atoms to cross a bounding surface between phases and to enter into a solution. 2. A measure of the tendency of hydrogen, metals, and certain nonmetals to pass into solution as ions.

**solutrope** A ternary mixture with two liquid phases and a third component distributed between the phases, or selectively dissolved in one or the other of the phases; analogous to an azeotrope.

**solvation** The process of swelling, gelling, or dissolving of a material by a solvent; for resins, the solvent can be a plasticizer.

**solvent** That part of a solution that is present in the largest amount, or the compound that is normally liquid in the pure state (as for solutions of solids or gases in liquids).

**solvolysis** A reaction in which a solvent reacts with the solute to form a new substance.